

Global LPS Bulletin – Reliability

Operator Routine Duty Detects High Vibrations on Critical Pumps

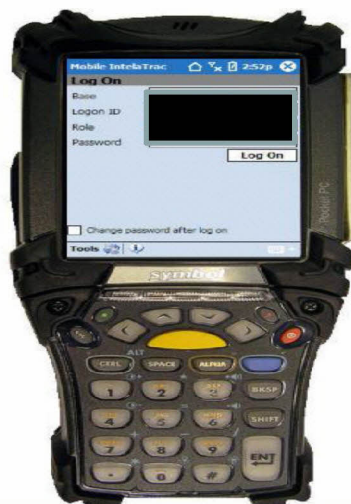


IMPACT ERM: N/A

Location: Richmond Refinery

Contact Information:

Jim Forbes
510-242-3191
jfmw@chevron.com



Operations IntelaTrac Hand Held



Operations Vibration Monitoring Probe

Incident Description:

While performing handheld vibration monitoring as part of their routine duties, FCC Plant Operators found two pumps with high vibrations. These were P-710 (FCC low pressure cooling water) pump and MP-257 (Light Gas Transfer Pump) and both pumps were found to have high vibrations on the outboard bearing. The refinery's Rotating Equipment Reliability (RER) group confirmed that the vibrations were present. P-710 was placed on standby before damage could occur and the RER group started closer monitoring of MP-257.

Lessons Learned / Business Practices:

- 1) Richmond FCC has approximately 3 - 4 confirmed high vibration readings per year as well as other lube oil/seal pressure issues that are found by operators.
- 2) Both these pumps require long lead times for replacement parts.
- 3) Acting on discrepancies found during routine operator hand held duties can lead to the elimination of significant unit reliability risks.
- 4) Handhelds have 2 sets of alarms:
 - a) Elevated – inform RER (or equivalent group) and they will check for issues/help resolve process problems.
 - b) High High – pump needs to be switched and removed from service ASAP.

What Worked Well:

- 1) No emergency switch was required and no loss was incurred.
- 2) The pumps can now be repaired with planned maintenance (saving \$) and P-710 is available for emergency use since the problem was caught early.

Recommendations:

- 1) Ensure Operators are trained in the use of hand held vibration monitoring equipment.
- 2) Create and implement Operational routine duties to capture vibration readings on critical rotating equipment.

Tenets of Operations DISPLAYED

7. Always comply with all applicable rules and regulations.
8. Always address abnormal conditions.
10. Always involve the right people in decisions that affect procedures and equipment.

This document is intended for company workforce only. Nothing herein should be construed as a legal determination of causation or responsibility. The company makes no representations or warranties, express or implied, about the thoroughness, accuracy, or suitability of use by others of any of the information contained herein.